

**Table 3.** Plant species and their density (individual m<sup>-2</sup>) in spring (S), late rainy season (L) and both spring and late rainy season (S+L) at the drain (S<sub>1</sub>, S<sub>2</sub> & S<sub>3</sub>) and pool sites (S<sub>4</sub>, S<sub>5</sub> & S<sub>6</sub>).

| S.No.                     | Plant species                          | Family           | Amanishah drain    |                    |                      | Dye wastewater pools |                     |                     |
|---------------------------|--|------------------|--------------------|--------------------|----------------------|----------------------|---------------------|---------------------|
|                           |  |                  | S <sub>1</sub>     | S <sub>2</sub>     | S <sub>3</sub>       | S <sub>4</sub>       | S <sub>5</sub>      | S <sub>6</sub>      |
| <b>I – Marshy species</b> |  |                  |                    |                    |                      |                      |                     |                     |
| 1.                        | <i>Alternanthera sessilis</i> D.C.     | Amaranthaceae    | S = 33<br>L = 26   | S = 42             | S = 116              | -                    | S = 62<br>L = 24    | -                   |
| 2.                        | <i>Amaranthus spinosus</i> Linn.       | Amaranthaceae    | S = 2<br>L = 2     | L = 1              | L = 5                | L = 1                | L = 5               | L = 1               |
| 3.                        | <i>Amaniam baccifera</i> Linn.         | Lythraceae       | L = 2              | -                  | -                    | -                    | -                   | -                   |
| 4.                        | <i>Anagallis arvensis</i> Linn.        | Primulaceae      | -                  | -                  | S = 1                | S = 1                | -                   | -                   |
| 5.                        | <i>Bacopa monnieri</i> Pennell.        | Scrophulariaceae | L = 3              | -                  | -                    | -                    | -                   | -                   |
| 6.                        | <i>Brachiaria reptans</i> Gard. & C.E. | Poaceae          | L = 25             | L = 34             | L = 19               | S = 1260<br>L = 758  | -                   | S = 9<br>L = 4      |
| 7.                        | <i>Celostia argentea</i> Linn.         | Amaranthaceae    | L = 12             | -                  | L = 24               | -                    | -                   | -                   |
| 8.                        | <i>Commelina forskalii</i> Vahl.       | Commelinaceae    | L = 4              | -                  | -                    | -                    | -                   | L = 1               |
| 9.                        | <i>Croton bonplandianum</i> Baill.     | Euphorbiaceae    | -                  | S = 8<br>L = 3     | -                    | S = 21<br>L = 8      | S = 1<br>L = 5      | S = 12<br>L = 11    |
| 10.                       | <i>Cynodon dactylon</i> Pers.          | Poaceae          | S = 662<br>L = 761 | S = 253<br>L = 144 | S = 1809<br>L = 1042 | S = 6940<br>L = 810  | S = 3753<br>L = 386 | S = 1113<br>L = 149 |
| 11.                       | <i>Cyperus rotundus</i> Linn.          | Cyperaceae       | -                  | -                  | L = 40               | -                    | -                   | L = 477             |
| 12.                       | <i>Eclipta alba</i> (Linn.) Hassk.     | Asteraceae       | S = 10<br>L = 5    | -                  | S = 1                | -                    | -                   | -                   |
| 13.                       | <i>Euphorbia hirta</i> Linn.           | Euphorbiaceae    | -                  | -                  | -                    | -                    | L = 1               | -                   |
| 14.                       | <i>Ipomoea carnea</i> Jacq.            | Convolvulaceae   | -                  | S = 3              | -                    | -                    | -                   | -                   |
| 15.                       | <i>Melilotus indica</i> All.           | Leguminoceae     | S = 1              | -                  | -                    | S = 1                | -                   | S = 1               |
| 16.                       | <i>Paspalum distichum</i> Linn.        | Poaceae          | S = 45<br>L = 221  | -                  | L = 327              | -                    | -                   | -                   |
| 17.                       | <i>Phragmites karka</i> Steud.         | Poaceae          | S = 19<br>L = 7    | -                  | -                    | -                    | -                   | -                   |



Table 3 (Contd...)

| S.No.               | Plant species                                | Family         | Amanishah drain       |                      |                       |                        |                      |                       | Dye wastewater pools |  |  |
|---------------------|--|----------------|-----------------------|----------------------|-----------------------|------------------------|----------------------|-----------------------|----------------------|--|--|
|                     |  |                | S <sub>1</sub>        | S <sub>2</sub>       | S <sub>3</sub>        | S <sub>4</sub>         | S <sub>5</sub>       | S <sub>6</sub>        |                      |  |  |
| 36.                 | <i>Eragrostis ciliaris</i> R.Br.             | Poaceae        | -                     | -                    | L = 10                | L = 112                | L = 1                | L = 14                |                      |  |  |
| 37.                 | <i>Heliotropium eichwaldi</i> Steud. ex DC.  | Boraginaceae   | -                     | -                    | -                     | S = 3                  | -                    | -                     |                      |  |  |
| 38.                 | <i>Heteropogon contortus</i> Roem. & Schult. | Poaceae        | -                     | -                    | -                     | L = 3                  | -                    | L = 40                |                      |  |  |
| 39.                 | <i>Indigofera enneaphylla</i> Linn.          | Leguminosae    | -                     | -                    | -                     | L = 1                  | L = 1                | -                     |                      |  |  |
| 40.                 | <i>Ocimum gratissimum</i> Linn.              | Labiatae       | -                     | -                    | -                     | L = 1                  | -                    | L = 1                 |                      |  |  |
| 41.                 | <i>Parthenium hysterophorus</i> Linn.        | Asteraceae     | S = 18<br>L = 10      | S = 5<br>L = 4       | S = 11<br>L = 8       | S = 38<br>L = 74       | S = 26<br>L = 42     | S = 81<br>L = 13      |                      |  |  |
| 42.                 | <i>Petalium murex</i> Linn.                  | Pedaliaceae    | -                     | -                    | -                     | L = 2                  | L = 1                | L = 1                 |                      |  |  |
| 43.                 | <i>Peristrophe bicalyculata</i> Nees.        | Acanthaceae    | -                     | -                    | L = 5                 | L = 1                  | L = 12               | L = 1                 |                      |  |  |
| 44.                 | <i>Physalis minima</i> Linn.                 | Solanaceae     | -                     | L = 3                | -                     | L = 1                  | -                    | L = 2                 |                      |  |  |
| 45.                 | <i>Pulicaria crispa</i> Sch.-Bip.            | Asteraceae     | -                     | -                    | -                     | L = 3                  | -                    | -                     |                      |  |  |
| 46.                 | <i>Sida cordifolia</i> Linn.                 | Malvaceae      | -                     | -                    | L = 3                 | -                      | -                    | -                     |                      |  |  |
| 47.                 | <i>Solanum surattense</i> Burn. F.           | Solanaceae     | -                     | -                    | -                     | S = 1<br>L = 1         | -                    | -                     |                      |  |  |
| 48.                 | <i>Tephrosia purpurea</i> Pers.              | Leguminosae    | -                     | L = 1                | -                     | L = 1                  | -                    | S = 5                 |                      |  |  |
| 49.                 | <i>Trianthema portulacastrum</i> Linn.       | Aizoaceae      | -                     | L = 3                | L = 14                | -                      | -                    | -                     |                      |  |  |
| 50.                 | <i>Tribulus terrestris</i> Linn.             | Zygophyllaceae | -                     | -                    | -                     | L = 2                  | -                    | -                     |                      |  |  |
| 51.                 | <i>Verbesina encelioides</i> (Cav.) Benth.   | Asteraceae     | S = 2<br>L = 2        | -                    | -                     | -                      | -                    | -                     |                      |  |  |
| 52.                 | <i>Withania somnifera</i> Dunal              | Solanaceae     | -                     | -                    | -                     | L = 1                  | -                    | -                     |                      |  |  |
| 53.                 | <i>Xanthium strumarium</i> Linn.             | Asteraceae     | S = 2<br>L = 7        | L = 5                | L = 9                 | -                      | S = 27<br>L = 6      | S = 7<br>L = 9        |                      |  |  |
| 54.                 | <i>Zizyphus nummularia</i> Wt. Arn.          | Rhamnaceae     | -                     | -                    | -                     | -                      | -                    | S = 2                 |                      |  |  |
| <b>Grand Total:</b> |  |                | 17 (840)<br>22 (1109) | 10 (326)<br>16 (388) | 8 (2016)<br>18 (1524) | 13 (8270)<br>26 (2657) | 8 (3881)<br>16 (646) | 12 (1240)<br>21 (962) |                      |  |  |

Table 3 (Contd...)

| S.No.  | Plant species                          | Family        | Amanishah drain |                |                | Dye wastewater pools |                |                |
|--|--|---------------|-----------------|----------------|----------------|----------------------|----------------|----------------|
|  |  |               | S <sub>1</sub>  | S <sub>2</sub> | S <sub>3</sub> | S <sub>4</sub>       | S <sub>5</sub> | S <sub>6</sub> |
| <b>Plant species occurring at the sites, but not recorded in quadrats studied:</b> |  |               |                 |                |                |                      |                |                |
| <b>I – Marshy species</b>  |  |               |                 |                |                |                      |                |                |
| 1.   | <i>Achyranthes aspera</i> Hook. f.     | Amaranthaceae | -               | -              | S              | -                    | -              | S              |
| 2.   | <i>Arundo donax</i> Linn.              | Poaceae       | -               | -              | S + L          | -                    | -              | -              |
| 3.   | <i>Cyperus alopecuroides</i> Rottb.    | Cyperaceae    | L               | -              | -              | -                    | -              | -              |
| 4.   | <i>Echinochloa stagnina</i> Beauv.     | Poaceae       | L               | -              | -              | -                    | -              | -              |
| 5.   | <i>Ranunculus sceleratus</i> Linn.     | Ranunculaceae | -               | -              | L              | -                    | -              | -              |
| 6.   | <i>Saccharum spontaneum</i> Linn.      | Poaceae       | S + L           | -              | S + L          | -                    | S + L          | S + L          |
| 7.   | <i>Sesbania sesban</i> Merr.           | Leguminosae   | -               | -              | -              | -                    | -              | L              |
| 8.   | <i>Sonchus asper</i> Hill.             | Asteraceae    | -               | -              | -              | -                    | -              | S              |
| <b>II – Terrestrial species</b>  |  |               |                 |                |                |                      |                |                |
| 9.   | <i>Acanthospermum hispidum</i> DC.     | Asteraceae    | -               | -              | -              | L                    | -              | -              |
| 10.  | <i>Acacia nilotica</i> Linn.           | Leguminosae   | -               | -              | -              | -                    | L              | L              |
| 11.  | <i>Azadirachta indica</i> A. Juss.     | Meliaceae     | -               | -              | -              | L                    | -              | L              |
| 12.  | <i>Brassica campestris</i> Prain       | Cruciferae    | -               | -              | S              | -                    | -              | -              |
| 13.  | <i>Citrullus colocynthis</i> Schrad.   | Cucurbitaceae | -               | -              | -              | L                    | -              | -              |
| 14.  | <i>Holoptelea integrifolia</i> Planch. | Ulmaceae      | -               | L              | -              | -                    | -              | L              |
| 15.  | <i>Leucas aspera</i> Spring            | Labiatae      | -               | -              | -              | -                    | -              | L              |
| 16.  | <i>Phaseolus</i> sp.                   | Leguminosae   | L               | -              | -              | -                    | -              | -              |
| 17.  | <i>Phyllanthus niruri</i> Hook. F.     | Euphorbiaceae | -               | -              | -              | -                    | L              | -              |
| 18.  | <i>Ricinus communis</i> Linn.          | Euphorbiaceae | L               | -              | S              | S                    | -              | -              |
| 19.  | <i>Tridax procumbens</i> Linn.         | Asteraceae    | -               | -              | -              | -                    | -              | S              |
| 20.  | <i>Trigonella foenum-graecum</i> Linn. | Leguminosae   | -               | -              | -              | S                    | -              | S              |
| <b>Grand Total:</b> Spring season  |  |               | 1               | 0              | 5              | 2                    | 1              | 5              |

**Table 5.** Biomass (g m<sup>-2</sup>) of plant species at different sites during spring and late-rainy season.

| Plant species                   | Spring season  |                |                |                |                |                | Late-rainy season |                |                |                |                |                |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|----------------|----------------|----------------|----------------|----------------|
|                                 | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | S <sub>4</sub> | S <sub>5</sub> | S <sub>6</sub> | S <sub>1</sub>    | S <sub>2</sub> | S <sub>3</sub> | S <sub>4</sub> | S <sub>5</sub> | S <sub>6</sub> |
| <b>A. Grasses and Sedges</b>    |                |                |                |                |                |                |                   |                |                |                |                |                |
| <i>Bracharia reptans</i>        | -              | -              | -              | -              | -              | -              | 2.6               | 14.3           | 12.7           | 65.7           | -              | 0.2            |
| <i>Bulbostylis barbata</i>      | -              | -              | -              | -              | -              | -              | -                 | -              | 0.1            | 1.2            | -              | -              |
| <i>Cynodon dactylon</i>         | 382.2          | 16.8           | 355.0          | 60.2           | 15.5           | 17.1           | 717.8             | 28.4           | 320.1          | 55.0           | 70.0           | 3.4            |
| <i>Cyperus compressus</i>       | -              | -              | -              | -              | -              | -              | -                 | -              | -              | 4.4            | 19.8           | 36.8           |
| <i>Cyperus rotundus</i>         | -              | -              | -              | -              | -              | -              | -                 | 11.1           | 8.0            | -              | -              | 0.2            |
| <i>Dactyloctenium aegyptium</i> | -              | -              | -              | -              | -              | -              | -                 | 10.9           | 4.8            | 14.6           | 45.7           | 58.4           |
| <i>Eragrostis ciliaris</i>      | -              | -              | -              | -              | -              | -              | -                 | -              | 1.1            | -              | 0.1            | 1.2            |
| <i>Heteropogon contortus</i>    | -              | -              | -              | -              | -              | -              | 3.0               | -              | -              | 8.0            | -              | 2.6            |
| <i>Paspalum distichum</i>       | -              | -              | -              | -              | -              | -              | 210.5             | -              | 248.0          | -              | -              | -              |
| <i>Phragmites karka</i>         | -              | -              | -              | -              | -              | -              | 61.5              | -              | -              | -              | -              | -              |
| <i>Typha elephanitina</i>       | 32.3           | -              | -              | -              | -              | -              | 62.1              | -              | -              | -              | -              | -              |
| <b>B. Forbs</b>                 |                |                |                |                |                |                |                   |                |                |                |                |                |
| <i>Alternanthera sessilis</i>   | 32.5           | 3.5            | 315.1          | -              | 1.4            | -              | 0.6               | -              | 20.5           | -              | 3.0            | -              |
| <i>Amaranthus spinosus</i>      | -              | -              | -              | -              | -              | -              | 1.2               | -              | 81.0           | -              | 29.3           | 0.1            |
| <i>Argemone mexicana</i>        | -              | 14.5           | -              | -              | -              | -              | -                 | -              | -              | -              | -              | -              |
| <i>Boerhavia diffusa</i>        | -              | -              | -              | -              | 0.3            | 1.4            | -                 | -              | -              | 1.0            | -              | -              |
| <i>Calotropis procera</i>       | -              | 6.3            | -              | -              | 26.7           | -              | -                 | 7.4            | -              | -              | -              | 0.1            |
| <i>Cannabis sativa</i>          | 1.6            | -              | -              | -              | -              | -              | -                 | -              | -              | -              | -              | -              |
| <i>Cassia tora</i>              | -              | 46.8           | -              | -              | -              | -              | -                 | 8.6            | -              | -              | -              | -              |
| <i>Celosia argentea</i>         | -              | -              | -              | -              | -              | -              | 52.0              | -              | -              | -              | -              | -              |
| <i>Chenopodium album</i>        | 18.8           | 1.2            | 71.9           | 2.0            | 0.9            | -              | -                 | -              | -              | 0.6            | 2.7            | -              |
| <i>Commelina forskalii</i>      | -              | -              | -              | -              | -              | -              | -                 | -              | 1.6            | -              | -              | -              |

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| Plant species                   | Spring season  |                |                |                |                |                | Late-rainy season |                |                |                |                |                |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|----------------|----------------|----------------|----------------|----------------|
|                                 | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | S <sub>4</sub> | S <sub>5</sub> | S <sub>6</sub> | S <sub>1</sub>    | S <sub>2</sub> | S <sub>3</sub> | S <sub>4</sub> | S <sub>5</sub> | S <sub>6</sub> |
| <i>Corchorus tridens</i>        | -              | -              | -              | -              | -              | -              | -                 | -              | -              | -              | -              | 0.6            |
| <i>Croton bonplandianum</i>     | -              | 26.2           | -              | 17.9           | 7.5            | 22.4           | -                 | 96.6           | -              | 40.7           | 0.7            | 34.1           |
| <i>Datura stramonium</i>        | -              | 36.3           | -              | -              | -              | -              | -                 | -              | -              | -              | -              | -              |
| <i>Eclipta alba</i>             | 11.6           | -              | -              | -              | -              | -              | 1.2               | -              | -              | -              | -              | -              |
| <i>Heliotropium eichwaldi</i>   | -              | -              | -              | 67.7           | -              | -              | -                 | -              | -              | -              | -              | -              |
| <i>Indigofera enneaphylla</i>   | -              | -              | -              | -              | -              | -              | -                 | -              | 1.2            | -              | -              | -              |
| <i>Ipomoea carnea</i>           | -              | 22.7           | -              | -              | -              | -              | 2.8               | -              | -              | -              | -              | -              |
| <i>Melilotus indica</i>         | 0.4            | -              | -              | -              | -              | -              | -                 | -              | -              | -              | -              | -              |
| <i>Ocimum gratissimum</i>       | -              | -              | -              | -              | -              | -              | -                 | -              | -              | -              | -              | 2.4            |
| <i>Parthenium hysterophorus</i> | 20.0           | 85.0           | -              | 110.9          | 27.5           | 46.1           | -                 | 28.3           | 10.0           | 38.9           | 145.3          | 60.8           |
| <i>Pedaliium murex</i>          | -              | -              | -              | -              | -              | -              | -                 | -              | -              | 3.1            | 7.8            | 2.6            |
| <i>Peristrophe bicalyculata</i> | -              | -              | -              | -              | -              | -              | -                 | -              | 11.5           | -              | 15.9           | 1.4            |
| <i>Physalis minima</i>          | -              | -              | -              | -              | -              | -              | -                 | 12.6           | -              | 1.9            | -              | 2.0            |
| <i>Polygonum glabrum</i>        | -              | -              | 105.8          | -              | -              | -              | 20.5              | -              | 11.2           | -              | -              | -              |
| <i>Rostellularia diffusa</i>    | -              | -              | -              | -              | -              | -              | -                 | -              | -              | 3.3            | -              | 4.8            |
| <i>Trinthena portulacastrum</i> | -              | -              | -              | -              | -              | -              | -                 | 2.8            | -              | -              | -              | -              |
| <i>Tribulus terrestris</i>      | -              | -              | -              | -              | -              | -              | -                 | -              | -              | 3.4            | -              | -              |
| <i>Verbesina encelioides</i>    | 0.5            | -              | -              | -              | -              | -              | -                 | -              | -              | -              | -              | -              |
| <i>Withania somnifera</i>       | -              | -              | -              | -              | -              | -              | -                 | -              | -              | 0.2            | -              | -              |
| <i>Xanthium strumarium</i>      | -              | -              | -              | -              | 51.3           | -              | 41.8              | 33.8           | 49.9           | 6.2            | 43.7           | 90.9           |
| <b>Grand Total</b>              | 499.9          | 259.3          | 847.8          | 258.7          | 131.1          | 87.0           | 1177.6            | 254.8          | 780.5          | 249.4          | 384.0          | 302.6          |